

## CLAIMS

1. Stator core for an electrical machine, said  
5 stator core comprising:  
    an core back,  
    and a plurality of teeth arranged circumferentially  
at the core back and extending radially there from,  
    wherein the core back is at least one sheet of  
10 electrically insulated soft magnetic material arranged as  
a spiral.
2. Stator core according to claim 1, wherein the  
core back is annular.
3. Stator core according to claim 1, wherein said  
15 sheet of electrically insulated soft magnetic material is  
elongated and have a length, a width, and a thickness,  
and  
    wherein the length of said sheet of electrically  
insulated soft magnetic material extends essentially  
20 circumferentially, the width of said soft magnetic  
material extends essentially axially, and the thickness  
of said soft magnetic material extends essentially  
radially.
4. Stator core according to claim 1, wherein said  
25 core back includes openings for receiving the teeth.
5. Stator core according to claim 4, wherein the  
sheet is elongated and includes an opening at each end of  
said sheet.
6. Stator core according to claim 1, wherein said  
30 sheet is fixed in the spiral shape by means of gluing,  
welding or soldering.
7. Stator core according to claim 4, wherein the  
teeth are arranged to be fastened in the openings by  
means of force fitting, gluing, welding or soldering.
- 35 8. Stator core according to claim 1, wherein the  
sheet is arranged to form three turns.

9. Core back for an electrical machine wherein the core back is at least one sheet of electrically insulated soft magnetic material arranged as a spiral.

10. Core back according to claim 9, wherein the core  
5 back is annular.

11. Core back according to claim 9, wherein said sheet of electrically insulated soft magnetic material is elongated and have a length, a width, and a thickness, and

10 wherein the length of said sheet of electrically insulated soft magnetic material extends essentially circumferentially, the width of said soft magnetic material extends essentially axially, and the thickness of said soft magnetic material extends essentially  
15 radially.

12. Core back according to any one of claims 9 to 11, wherein said core back includes openings arranged to receive teeth, wherein said sheet is elongated and said openings are arranged not to cut the elongate edges of  
20 said sheet.

13. Core back according to claim 12, wherein the sheet is elongated and includes an opening at each end of said sheet.

14. Core back according to claim 9, wherein said  
25 sheet is fixed in the spiral shape by means of gluing or welding or soldering.

15. Core back according to claim 9, wherein the sheet is arranged to form three turns.

16. Method for producing a stator core for an  
30 electrical machine, comprising the acts of:

winding a sheet of electrically insulated soft magnetic material into a spiral in order to form a core back, and

35 attaching a plurality of teeth to the core back so that the teeth are circumferentially separated and extends radially from the core back.

17. Method according to claim 16, wherein the act of attaching a plurality of teeth to the core back comprises arranging the teeth into openings in the core back.

18. Method according to claim 16, wherein the act of  
5 attaching the teeth to the core back comprises force fitting, gluing, welding or soldering.

19. Method according to claim 16, further comprising the act of fixing the sheet in the shape of said spiral by means of gluing, welding or soldering.